



AMÉTYST METHANIZATION PLANT

A TREATMENT PLANT FOR HOUSEHOLD AND SIMILAR TYPES OF WASTE THAT USES ANAEROBIC BIOLOGICAL METHODS (METHANIZATION) WHILE PRODUCING HEAT AND ELECTRICITY AT A MONTPELLIER MÉTROPOLE SCALE – 450,000 RESIDENTS

Amétyst comprises two distinct treatment lines for:

- *Residual household waste from door-to-door collection. This waste is also referred to as the “gray trashcans”.*
- *The fermentable portion of household and similar types of waste (bio-waste), comprised of purely organic waste. Part of this waste comes from individual households, the remainder originates from other producers such as restaurants, markets, and businesses.*

After mechanical sorting, waste is conveyed to eight dedicated digesters. Implementing a process of anaerobic biochemical reactions, these digesters transform part of the organic matter into biogas.

After treatment, the biogas produced by household waste digestion is then transformed by co-generation units into:

- *Electricity, which is injected into the network*
- *Heat, which is used by the plant itself for process needs*
- *Heat, which is used by SERM for the collective heating and cooling network for the new Grisettes district in Montpellier.*

Residual organic matter is then set aside for maturation to produce compost that can be used for farming and landscape development needs, or otherwise stabilized before being transported to a non-dangerous waste disposal site.

KEY PRODUCTION DATA FOR 2015

- ➔ **18,724 MWh electricity**, sold to EDF
- 6,740 MWh thermal power** transferred to urban heating network for Grisettes district, etc.
- 2,568 MWh heat consumed** for the plant's own needs.
- ➔ **Saint Roch clinic connected** to the heating network.
- ➔ **In the long-term, 2,300 apartments** in the Grisettes zone will be supplied by Amétyst.

INNOVATIONS

- ▶ **1st heating network connected** to a methanization plant.
- ▶ **High energy yield**, unparalleled with respect to other methanization sites.
- ▶ **The consistent quantity and quality of produced biogas** enables optimal operation of cogeneration engines, with regular delivery of heating for apartments and businesses in the Grisettes zone, a certified eco-district.

STAKEHOLDERS

► Construction:

Project owner: Montpellier Méditerranée Métropole

Builder: VINCI Environnement (2006/2008)

Process: KOMPOGAS (CH)

► Operation:

Public Service Delegation on behalf of Montpellier Métropole: SITA SUEZ - 10-year contract starting Jan. 1, 2015



IMPLEMENTATION

► Implementation: 2008

New SUEZ contract: January 1, 2015

Commissioning of new equipment: March 1, 2016 (14 months of work without interrupting service)

► The plant implements technologies developed by Vinci Environnement and SITA SUEZ to transform waste into energy and compost.

► All of the residual household waste and bio-waste collected in 2015 within the Montpellier Métropole territory was treated by the Amétyst plant, representing 125,839 tons of household waste and 2,697 tons of bio-waste in 2015.

► Challenges:

- Controlling the methanization biology
 - Compost compliance via ultra-screening
- Patents filed by SUEZ with INPI.

RESULTS

/// 2015 was marked by the kick-off of a new public service delegation contract signed with Novergie to operate the Amétyst methanization plant. Major work projects were undertaken successively, totaling about €9.5 million, by the delegated contractor to significantly improve plant production results in the long-term, by over 30,000 tons of standardized compost, and 10,000 tons of solid recovered fuel (SRF).

/// The work was completed on February 29, 2016, as stipulated in the terms of the public service delegation contract.

/// At the end of the first few months of service and ramp-up of the new equipment, the production of standardized compost reached 2,800 tons (March 1 to July 31), in compliance with fixed goals, compared to 175 tons of compost produced in 2014.



FINANCIAL ASPECTS OF THE OPERATION

/// The plant implements technologies developed by Vinci Environnement to recycle matter and transform it into energy and compost.

/// Co-funding by Région Languedoc-Roussillon Midi Pyrénées and ADEME.

KEY FIGURES

→ Construction: 86 M€
[pre-tax]

→ Operation: 150 M€
over 10 years

